DESCRIPTION

Title of Invention: GATE DEVICE, AUTHENTICATION SYSTEM, GATE DEVICE CONTROL METHOD, AND STORAGE MEDIUM

[Technical Field]

[0001]

The some non-limiting embodiments relates to a gate device, an authentication system, a method of controlling the gate device, and a storage medium.

[Background Art]

[0002]

Services using face authentication have started to spread (see PTLs 1 to 3). For example, face authentication has started to be applied to various procedures (for example, check in, baggage check, security check, and the like) at airports. A service using face authentication is often provided using a gate device.

[Citation List]

[Patent Literature]

[0003]

[PTL 1] JP 2006-236244 A

[PTL 2] JP 2018-128970 A

[PTL 3] JP 2018-109935 A

[Summary]

[0004]

As described above, services using face authentication have started to be provided at airports and the like. For example, a security check using face authentication is performed at a security check site at an

[0008]

According to a first aspect of the some non-limiting embodiments, there is provided a gate device comprising an acquisition unit that acquires an upper image and a lower image from an upper camera and a lower camera installed below the upper camera in a vertical direction, respectively, a setting unit that, when a plurality of users appears in both of the upper image and the lower image, identifies a user in a forward-most row from among the plurality of users by calculating a distance between each of the plurality of users and a camera installation face, and sets the identified user as a person to be authenticated, and a gate control unit that controls a gate based on a result of authentication of the person to be authenticated.

[0009]

According to a second aspect of the some non-limiting embodiments, there is provided an authentication system comprising a server device that stores biological information about each of a plurality of system users and performs an authentication process using the plurality of pieces of biological information, and a gate device connected to the server device, wherein the gate device includes an acquisition unit that acquires an upper image and a lower image from an upper camera and a lower camera installed below the upper camera in a vertical direction, respectively, a setting unit that, when a plurality of users appears in both of the upper image and the lower image, identifies a user in a forward-most row from among the plurality of users by calculating a distance between each of the plurality of users and a camera installation face, and sets the identified user as a person to be authenticated, an authentication request unit that requests the server device to authenticate the person to be authenticated, and a gate control unit that controls a gate based on a

result of authentication of the person to be authenticated.

[0010]

According to a third aspect of the some non-limiting embodiments, there is provided a method of controlling a gate device, the method comprising: by the gate device, acquiring an upper image and a lower image from an upper camera and a lower camera installed below the upper camera in a vertical direction, respectively, when a plurality of users appears in both of the upper image and the lower image, identifying a user in a forward-most row from among the plurality of users by calculating a distance between each of the plurality of users and a camera installation face, and setting the identified user as a person to be authenticated, and controlling a gate based on a result of authentication of the person to be authenticated.

[0011]

According to a fourth aspect of the some non-limiting embodiments, there is provided a computer-readable storage medium storing a program for causing a computer mounted on a gate device to execute processes of: acquiring an upper image and a lower image from an upper camera and a lower camera installed below the upper camera in a vertical direction, respectively, when a plurality of users appears in both of the upper image and the lower image, identifying a user in a forward-most row from among the plurality of users by calculating a distance between each of the plurality of users and a camera installation face, and setting the identified user as a person to be authenticated, and controlling a gate based on a result of authentication of the person to be authenticated.

[0012]

According to each aspect of the some non-limiting embodiments, a